

**SUBMITTED VIA ELECTRONIC FILING**

June 6, 2011

Honorable Kimberly D. Bose  
Secretary  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, DC 20426

**Re: *Puget Sound Energy, Inc., Revisions to Open Access Transmission  
Tariff***  
**Docket No. ER11-\_\_\_\_-000**

Dear Ms. Bose:

Pursuant to Section 205 of the Federal Power Act (“FPA”), 16 U.S.C. § 824d (2006), Part 35 of the Federal Energy Regulatory Commission’s (“Commission” or “FERC”) regulations, 18 C.F.R. Part 35 (2010), and Order No. 714,<sup>1</sup> Puget Sound Energy, Inc. (“PSE”) hereby submits an electronic copy of proposed revisions to its Open Access Transmission Tariff (“OATT”) Schedules 3 and 13. The purpose of the revisions is to update PSE’s existing rates for Regulation and Frequency Response Service to reflect its current costs of providing such service, and to provide for differentiated cost recovery to serve dispatchable and intermittent generators exporting power from PSE’s Balancing Authority Area (“BAA”).

PSE respectfully requests that the Commission accept these tariff revisions for filing to become effective August 5, 2011, 60 days after the date of this filing, without suspension or hearing.

**I. INTRODUCTION**

As a Balancing Authority (“BA”) in the wind-rich Pacific Northwest and as one of the largest public utility developers of wind generation in the United States, PSE finds itself in the middle of the ongoing debate over wind integration. Wind is invaluable as a clean, renewable fuel source and for this reason, and because of public policies at the

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<sup>1</sup> *Electronic Tariff Filings*, Order No. 714, 73 Fed. Reg. 57,515 (Oct. 3, 2008), FERC Stats. & Regs. ¶ 31,276 (2008).

state and federal level, the “Commission expects the number of [wind generation facilities], both in real numbers and as a percentage of total generation capacity, to continue to grow” with “another 85 GW of wind generating capacity ... proposed to be online by the end of 2012.”<sup>2</sup> PSE is committed to the continued development of wind-powered generation resources in the Pacific Northwest to serve its customers.

The variable nature of wind and other intermittent generation strains a transmission system in ways that dispatchable generation does not. In *NorthWestern Corp.*, 129 FERC ¶ 61,116 (2009); *reh’g denied*, 131 FERC ¶ 61,202 (2010) (“*Northwestern*”), the Commission held that public utility transmission providers are not permitted to disclaim the obligation to maintain the capacity reserves needed to provide generator regulation service to customers that use transmission service to export energy from generators located within their BAA.<sup>3</sup> Without regulation reserves, the Commission held, transmission providers might compromise their ability to provide hourly Generation Imbalance Service under Schedule 9 of the *pro forma* OATT.<sup>4</sup> Thus, the Commission has recently taken the view that generator regulation service is the capacity component of the *pro forma* OATT’s Schedule 9 hourly generator imbalance energy service and no longer a purely moment-to-moment capacity product.

Consistent with the obligation described in *NorthWestern*, and the requirements of NERC’s reliability standards, PSE currently provides Regulation and Frequency Response Service to generators located within PSE’s BAA and exporting power outside of the BAA under Schedule 13 of its OATT at a rate of \$5.50 / kW-month.<sup>5</sup> Exporting generators using the PSE transmission system to deliver power outside of the PSE BAA are required to purchase an amount of regulation capacity equivalent to 2.0 percent of the customer’s transmission reservation, regardless of whether the exporting generator is an intermittent or dispatchable generation resource.<sup>6</sup> As the Commission recently recognized in its VER NOPR, however, intermittent generation resources “may impose a disproportionate impact on overall system variability, thereby requiring public utility

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<sup>2</sup> *Integration of Variable Energy Resources*, Notice of Proposed Rulemaking, 75 Fed. Reg. 75,336 (Dec. 2, 2010), FERC Stats. & Regs. ¶ 32, 664 at PP 13-14 (2010) (“VER NOPR”).

<sup>3</sup> *NorthWestern* at P 27.

<sup>4</sup> *Id.*

<sup>5</sup> See Puget Sound Energy, Inc., FERC Electric Tariff 8th Rev. Volume No. 7, Open Access Transmission Tariff, Original Sheet Nos. 161G-H, available at [http://www.oatioasis.com/PSEI/PSEIdocs/PSE\\_OATT\\_\(as\\_of\\_06.21.2010\).pdf](http://www.oatioasis.com/PSEI/PSEIdocs/PSE_OATT_(as_of_06.21.2010).pdf)

<sup>6</sup> Currently, the only exporting intermittent generators located within PSE’s BAA are wind generation facilities. Wind generation facilities are part of a broader class of intermittent, or “non-dispatchable” generation facilities that present similar challenges to BAs due to their variable output. These terms are used interchangeably in this filing to refer to any resource that is variable beyond the control of the resource operator.

transmission providers to hold a greater per MW amount of regulation reserves for VERs than for load and/or other generation resources.”<sup>7</sup> Indeed, in *Westar Energy, Inc.*, 130 FERC ¶ 61,215 (2010) (“*Westar*”), the Commission approved a proportionately higher regulation service purchase obligation for intermittent generation exports than for dispatchable generation exports in recognition of the higher regulation burden imposed by intermittent generators.<sup>8</sup>

Employing the same methodology that the Commission approved in *Westar*, PSE has measured and compared the actual output of wind generation in its BAA to the scheduled output of such generation and determined that the within-the-hour deviations of wind generation require PSE to maintain significantly higher amounts of regulation reserves than the 2.0 percent of capacity presently required under Schedule 13. Thus, PSE proposes to increase the generator regulation service purchase obligation under Schedule 13 for intermittent generation exports from 2.0 percent to 16.77 percent, based on the recorded within-the-hour deviations from schedule of the wind generation in PSE’s BAA during 2010, and taking into account the offsetting deviations and diversity of load and dispatchable generation.

PSE also proposes in this filing to update its cost of capacity used to provide regulation service under both Schedules 3 and 13 from the \$5.50 / kW-month established in 1998<sup>9</sup> to \$12.39 / kW-month based on the increased cost of providing such service. The proposed updated rate takes into account and captures the current cost of maintaining the generation capacity that is used to provide regulation service for load and generation on PSE’s system within-the-hour. PSE’s proposed revision of its regulation rate is fully supported by the detailed cost of service statements and testimony of PSE’s witness John Story, and is reconciled to its most recently filed FERC Form 1 as required by the Commission’s regulations.

PSE recognizes that the Commission has proposed a mechanism for recovering the cost of providing regulation service from intermittent generation in its recent VER NOPR. PSE’s proposed revisions to Schedule 13 are in accord with the VER NOPR’s proposed Schedule 10, Generator Regulation and Frequency Response Service because the proposed revisions allocate the cost of regulation service based on the measured variability of wind generation in PSE’s BAA. Without the revisions to PSE’s OATT proposed here, the costs that PSE is now incurring to provide generator regulation service to exporting intermittent generators in PSE’s BAA -- a service that PSE is required to provide under *NorthWestern* and NERC’s reliability standards -- will not be recovered from PSE’s existing transmission customers that are currently exporting power outside of PSE’s BAA. Those costs instead will be unfairly subsidized by PSE’s native load customers, a result that is inconsistent with cost causation principles.

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<sup>7</sup> VER NOPR at P 94.

<sup>8</sup> See *Westar* at P 1.

<sup>9</sup> See Docket No. ER97-4468-000.

## II. BACKGROUND

### A. Description of PSE

PSE is a Washington corporation having its principal place of business in Bellevue, Washington and is a wholly-owned subsidiary of Puget Energy, Inc. (“Puget Energy”), a holding company. PSE is an investor-owned public utility that provides retail electric and natural gas service in a service territory covering approximately 6,000 square miles in the Puget Sound region of the state of Washington. PSE’s retail and wholesale utility businesses include the generation, purchase, transmission, distribution and sale of electric energy, plus the purchase, transportation, storage, distribution and sale of natural gas. PSE serves more than 1 million electric customers and 750,000 natural gas customers primarily in the growing Puget Sound region of western Washington.

PSE owns a high voltage transmission system in the state of Washington and provides service over its transmission system pursuant to its OATT. PSE also operates a BAA that incorporates its transmission system in the State of Washington. PSE currently provides Schedule 13 generator regulation service to Invenergy Wind North America LLC’s (“Invenergy”) 96 MW Vantage Wind Energy LLC (“Vantage”) wind generation facility in eastern Kittitas County, Washington. PSE anticipates significant development of wind resources in its BAA, both to serve its own native load and for export to California, where the State’s RPS is driving significant development of wind resources in the Pacific Northwest. As of the date of this filing, there are approximately 377 MW of additional wind generation capacity in PSE’s interconnection queue.

### B. Recovery of Generator Regulation Charges on a Case-by-Case Basis: Redefining Regulation Service Under Order No. 890 and *Northwestern*.

As the Commission recognized in *NorthWestern*, there is both an energy cost and a capacity cost associated with balancing the within-hour variability of wind generation as a transmission provider.<sup>10</sup> In Order No. 890, the Commission explained that if “[a] transmission provider elects to have separate demand charges assigned to customers for the purpose of recovering the cost of holding additional reserves for meeting imbalances, the transmission provider should file a rate schedule and demonstrate that these charges do not allow for double recovery of such costs.”<sup>11</sup> In Order No. 890-A, the Commission

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<sup>10</sup> *NorthWestern* at P 27.

<sup>11</sup> *Preventing Undue Discrimination and Preference in Transmission Service*, Order No. 890, 72 Fed. Reg. 12,266 (Mar. 15, 2007), FERC Stats. & Regs. [Regs. Preamble 2006-2007] ¶ 31,241 at PP 690 & 689 n.401; *order on reh’g and clarification*, Order No. 890-A, 73 Fed. Reg. 2,984 (Jan. 16, 2008), FERC Stats. & Regs. [Regs. Preamble 2006-2007] ¶ 31,261 (2007); *order on reh’g and clarification*, Order No. 890-B, 123 FERC ¶ 61,299 (2008); *order on reh’g*, Order No. 890-C, 126 FERC ¶ 61,228 (2009); *order on clarification*, Order No. 890-D, 129 FERC ¶ 61,126 (2009); *appeal vol. dismissed Nat’l Rural Elec. Coop. Ass’n. v. FERC* (DC Cir. No. 08-1278) (“To the extent a transmission

clarified that public utility transmission providers may propose to assess regulation charges to generators selling in the BAA, as well as generators selling outside the BAA, and that the Commission will consider such proposals on a case-by-case basis.<sup>12</sup> Since the issuance of Order No. 890, on a case-by-case basis, the Commission has accepted proposals to recover such generator regulation charges pursuant to this mechanism.<sup>13</sup>

**C. Implementation of PSE's Schedule 13 Regulation and Frequency Response Service for Generators Selling Outside the Control Area**

On February 4, 2010, PSE filed to amend its OATT to implement Schedule 13, Regulation and Frequency Response Service for Generators Selling Outside the Control Area.<sup>14</sup> The rate for PSE's proposed generator regulation service consisted of two parts: (1) a regulation percentage of 2.0 percent; and (2) a regulation capacity rate of \$5.50 / kW-month, resulting in a charge of \$0.11 / kW-month.<sup>15</sup> The regulation percentage and capacity rate billing determinants are the same as those used to determine the charge for load regulation service PSE provides under Schedule 3, and were developed through a black-box settlement approved by the Commission in Docket No. ER97-4468-000.<sup>16</sup> For a 100 MW wind generator selling outside PSE's BAA, the current monthly charge under Schedule 13 is just \$11,000.

**D. Westar and the Recognition of a Higher Regulation Burden Imposed by Intermittent Resources**

In *Westar*, the transmission provider proposed to offer and charge for generator regulation service to all generation resources that use transmission service to export energy from Westar's BAA.<sup>17</sup> Rather than proposing a standardized generator regulation

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provider wishes to recover costs of additional regulation reserves associated with providing imbalance service, it must do so via a separate FPA Section 205 filing demonstrating that these costs were incurred correcting or accommodating a particular entity's imbalances.”).

<sup>12</sup> *Id.*

<sup>13</sup> See, e.g., *Entergy Servs. Inc.*, 120 FERC ¶ 61,042 at PP 62-66 (2007); *Sierra Pac. Res. Operating Cos.*, 125 FERC ¶ 61,026 (2008).

<sup>14</sup> *Open Access Transmission Tariff Changes*, Docket No. ER10-723-000 (filed Feb. 4, 2010); *Puget Sound Energy, Inc.*, Letter Order, Docket No. ER10-723-000 (Apr. 12, 2010) (accepting PSE's OATT modifications).

<sup>15</sup> *Id.*

<sup>16</sup> *Puget Sound Energy, Inc.*, 97 FERC ¶ 61,309 (2001) (letter order approving settlement).

<sup>17</sup> *Westar* at P 1.

service charge, Westar proposed to apportion the total charge between dispatchable generation resources and intermittent generation resources, commensurate with the respective generator regulation service burden each of these resources placed on Westar's system.<sup>18</sup>

Westar determined the purchase obligation of intermittent generation by measuring the aggregate output of wind generators in the Westar BAA in 10-minute intervals, and compared the output every 10 minutes to the output 10 minutes earlier. Westar then multiplied the standard deviation of the 10-minute deviations by two to determine the amount of regulation capacity it would need to establish a 95% confidence interval, and then divided this amount of regulation capacity by the nameplate capacity of the wind generation on its system to determine the regulation percentage.<sup>19</sup> Westar applied the offsetting diversity of load and other sources of system diversity to the stand-alone intermittent generator regulation percentage in what is known as the portfolio-wide approach.<sup>20</sup> The result was a proposed regulation percentage for intermittent generation that was higher than the regulation percentage for dispatchable generation.<sup>21</sup>

The Commission conditionally accepted Westar's proposal subject to minor revision,<sup>22</sup> and Schedule 3A of Westar's generator regulation tariff currently requires exporting wind generators to purchase an amount of generator regulation service that is greater than that required of dispatchable generation exports.<sup>23</sup> Thus, in *Westar*, the Commission recognized based on an analysis of scheduling performance data that intermittent generation requires a transmission provider to reserve proportionately more regulation capacity than is required for dispatchable generation.

#### **E. PSE's Prior Wind Integration Tariff Filing and Subsequent Discussions with FERC Staff**

On June 14, 2010, PSE filed a proposed amendment to its OATT to implement Schedule 12 "Wind Integration Within-Hour Generation Following Service"<sup>24</sup> in order to recover the capacity costs of integrating wind generation. Unlike the generator regulation

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<sup>18</sup> *Id.* at PP 35-36.

<sup>19</sup> See *Westar Energy, Inc.*, Form Balancing Area Services Agreement and Schedule 3A to Open Access Transmission Tariff, Direct Testimony of Paul Dietz at p. 8, Docket No. ER09-1273-000 (filed June 3, 2009).

<sup>20</sup> *Id.* at pp. 10-16.

<sup>21</sup> *Id.* at p. 8.

<sup>22</sup> *Westar* at PP 38-40.

<sup>23</sup> See *Westar Compliance Filing*, Docket No. ER09-1273-001 (filed Apr. 19, 2010).

<sup>24</sup> See *PSE Tariff Filing*, Docket No. ER10-1436-000 (filed June 14, 2010).

service provided by Westar to integrate intermittent generation under its Schedule 3A, PSE's proposed following service attempted to recognize the larger-magnitude hourly, rather than smaller-magnitude moment-to-moment, nature of most wind ramping events, and thus identified the integration service as within-hour generation "following capacity" service instead of regulation service. The cost of PSE's proposed Following Capacity Service was determined by multiplying (1) a fixed rate of \$14.91 / kW-month, based on the cost of capacity from a proxy peaker generating unit by (2) an allocation factor of 18.1%, determined by measuring deviations from wind generation on PSE's system from the hourly schedule every 10 minutes to calculate the regulation percentage.<sup>25</sup> The resulting proposed charge was \$2.70 / kW-month.

On August 13, 2010, the Commission issued an order rejecting without prejudice PSE's proposed Schedule 12 following capacity service, finding that PSE had failed to demonstrate that the cost of the proxy generating unit was an accurate representation of PSE's actual or lost opportunity costs.<sup>26</sup> PSE elected not to seek rehearing of the Commission's order, and after expiration of the rehearing period, initiated discussions with FERC staff concerning a revised approach to recovery of the capacity costs associated with integrating wind generation on an hourly basis. Through these discussions with FERC staff, it became apparent that the Commission viewed within-hour wind integration capacity service as a component of the regulation product, and that a cost recovery proposal consistent with *Westar* would be better-received by the Commission. PSE subsequently began the process of piecing together the data and analysis necessary to develop a regulation charge for intermittent generation consistent with the *Westar* model.

#### **F. The VER NOPR**

Shortly after PSE's discussions with FERC staff about the *Westar* model of cost recovery, the Commission issued the VER NOPR.<sup>27</sup> The VER NOPR proposed to add a new ancillary service schedule to the *pro forma* OATT: Schedule 10, Generator Regulation and Frequency Response Service. Schedule 10 would be similar to Westar's Schedule 3A, except that it would apply to all transmission customers delivering energy from a generating resource located within the transmission provider's BAA, and not just to those exporting the energy outside the BAA.<sup>28</sup> As under Schedule 3 of the *pro forma* OATT, the proposed Schedule 10 charge would be the product of two components: (1) a per-unit rate for regulation service capacity and (2) a volumetric component for

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<sup>25</sup> *Id.*

<sup>26</sup> *Puget Sound Energy, Inc.*, 132 FERC ¶ 61,128 at PP 34-35 (2010). The order rejected PSE's proposed Wind Following Service rate without prejudice to PSE filing a new rate proposal consistent with the discussion in the order.

<sup>27</sup> *See* note 2, *supra*.

<sup>28</sup> VER NOPR at P 88.

regulation reserve capacity.<sup>29</sup> The NOPR proposed that the per unit rate for regulation be the same under Schedules 3 and 13 “[b]ecause the service provided under both schedules is functionally equivalent.”<sup>30</sup> However, with respect to the volumetric component for regulation reserve capacity, the Commission recognized that “VERs may impose a disproportionate impact on overall system variability, thereby requiring public utility transmission providers to hold a greater per MW amount of regulation reserves for VERs than for load and/or other generation resources.”<sup>31</sup>

Accordingly, consistent with *Westar*, under the VER NOPR’s proposed Schedule 10, a transmission provider may require a transmission customer delivering energy from a VER to purchase a different volume of generator regulation reserves “to the extent that the different regulation reserve volumes are supported by data showing that, on the public utility transmission provider’s system, VERs impose a different per unit impact on overall system variability than conventional generating units.”<sup>32</sup> The NOPR further proposed that any Schedule 10 filing proposing different volumetric requirements for VERs and dispatchable generation resources “should be supported with actual data collected over a one year period subsequent to the implementation of intra-hourly scheduling and power production forecasting for VERs.”<sup>33</sup>

### III. DESCRIPTION OF FILING

PSE’s tariff filing proposes two principal changes to Schedules 3 and 13 of its OATT that will allow it to recover the cost of the regulation reserves that PSE requires within the scheduling hour to offset scheduling deviations. First, PSE proposes to update the capacity rate for regulation and frequency response service provided under Schedules 3 and 13 from the \$5.50 / kW-month capacity charge established in 1998 to \$12.39 / kW-month to reflect the current cost of regulation service. Second, PSE proposes to implement a 16.77% purchase obligation for intermittent generators selling outside of PSE’s BAA under Schedule 13 to reflect the greater regulation burden imposed by intermittent generation on PSE’s BAA.

The resulting charge under Schedule 3 will increase from \$0.11/kW-month of transmission reservation to \$0.25/kW-month. The resulting charge under Schedule 13 will increase from \$0.11/kW-month to \$0.25/kW-month of transmission reservation for customers delivering energy outside the PSE BAA from dispatchable generation resources, and from \$0.11/kW-month to \$2.08 /kW-month of transmission reservation for

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<sup>29</sup> *Id.* at P 92.

<sup>30</sup> *Id.* at P 93.

<sup>31</sup> *Id.* at P 94.

<sup>32</sup> *Id.* at P 95.

<sup>33</sup> *Id.* at P 106.

customers delivering energy outside the PSE BAA from wind or other non-dispatchable generation resources. The proposed revisions reflected in the Schedule 13 tariff sheets contained in this filing are modeled after, and consistent with, Westar's Schedule 3A as approved by the Commission in Docket No. ER09-1273-000.<sup>34</sup>

### **A. Updating The Regulation Charge Under Schedules 3 and 13**

PSE's current \$5.50 / kW-month capacity charge for regulation service provided under Schedules 3 and 13 was implemented in 1998 in conjunction with the adoption of PSE's OATT under Order No. 888 through a "black box" settlement in Docket No. ER97-4468-000.<sup>35</sup> The \$5.50 / kW-month capacity charge no longer reflects the cost of regulation capacity used by PSE for two reasons. First, as described in the testimony of Mike Tongue, the pool of generation resources used by PSE for within-the-hour regulation service has changed since 1998 due to constraints on the availability of PSE's hydroelectric generation and increased system variability since the introduction of wind generation. Second, the cost of capacity from PSE's pool of regulation resources has increased due to changes in O&M costs, increased purchase costs for Mid-C hydro, and the introduction of new combined cycle generation resources into the regulation resource pool. The testimony and accompanying cost of service statements of PSE witness John Story provide the cost support for the new \$12.39 / kW-month weighted average fixed cost of PSE's pool of regulation resources.

#### **1. Regulation Resource Pool**

The pool of resources called upon by PSE to provide regulation capacity within-the-hour has expanded since 1998 as explained in the testimony of Mike Tongue. First, the magnitude of ramping events on the PSE system has increased since the introduction of wind generation, which requires PSE to have available a larger volume of regulation reserves than it maintained in 1998. Second, PSE's available hydroelectric capacity from its Mid-Columbia purchase has decreased from 1,432 MW in 2001 to just 878 MW in 2011.<sup>36</sup> The operating range of the Mid-C resources is further limited during the spring run-off period and during outages. Moreover, the Mid-C resources are used by PSE for spinning and non-spinning reserves, and are frequently used for peak-shaving. As a result, PSE's thermal units are regularly called upon to provide regulation reserves, and are essential during the spring runoff period when PSE's hydroelectric generation capacity is often unavailable to provide downward flexibility.<sup>37</sup>

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<sup>34</sup> *Westar* at PP 38-40.

<sup>35</sup> *Puget Sound Energy, Inc.*, 97 FERC ¶ 61,309 (letter order approving settlement).

<sup>36</sup> See Exhibit PSE-200, Testimony of Michael V. Tongue at p. 6

<sup>37</sup> See *id.* at p. 7.

Mr. Tongue's testimony explains that eight generation resources identified on the table below are used by PSE on a regular basis to provide regulation capacity:

No.	Plant Type	Plant Name
1	Jointly Owned Hydro	Mid-Columbia
2	PSE Hydro	Upper Baker
3	PSE Hydro	Lower Baker
4	Combined Cycle	Encogen
5	Combined Cycle	Mint Farm
6	Combined Cycle	Goldendale
7	Combined Cycle	Sumas
8	Jointly Owned Coal	Colstrip

The cost of these units form the basis for PSE's proposed regulation capacity charge under Schedules 3 and 13.

## **2. Weighted Average Cost of Capacity of Regulation Resource Pool**

The testimony and accompanying exhibits sponsored by Mr. Story provide the cost support for the weighted average cost of capacity from the pool of regulation resources identified in the testimony of Mr. Tongue. Mr. Story prepared Statements AA-BM, with the exception of Statement BL which was prepared by Mr. Lloyd Reed, and Statement AV, which was prepared by Mr. James Sant, for twelve months of Period I data from calendar year 2010 using information provided in PSE's most recently submitted FERC Form 1, and twelve months of Period II data, from calendar year 2011, the Test Period, based on PSE's budgeted costs for 2011. Statement BK shows the revenue requirements associated with each of the generating units in the regulation resource pool. The revenue requirements were developed using PSE's actual capital structure, 48% equity - 52% debt, developed and supported by PSE witness James Sant,<sup>38</sup> and a proposed return on equity ("ROE") of 11.6% developed and supported in the testimony and exhibits of PSE witness Charles Olson.<sup>39</sup> Mr. Story's testimony fully explains and supports PSE's estimates of Period II costs. For each source of capacity, the weighted average cost was determined by dividing the capacity of the source by the total capacity of the pool, and then multiplying that fraction by the capital cost in \$/kW-year for that unit. These calculations are illustrated on Statement BK – By Plant.<sup>40</sup> The \$12.39 / kW-month weighted average cost of the pool was determined by summing the annual weighted cost of each individual unit in the regulation resource pool and dividing the total by twelve.

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<sup>38</sup> See Exh. PSE-400, Testimony of James D. Sant at p. 6.

<sup>39</sup> See Exh. PSE-300, Testimony of Charles E. Olson at p. 17.

<sup>40</sup> See Exh. PSE-501, Statement BK By Plant.

**B. Updating the Generator Regulation Purchase Obligation For Intermittent Generators Under Schedule 13.**

The second proposed change to PSE's OATT is a revision to the generator regulation purchase obligation for intermittent generation resources under Schedule 13, consistent with the approach approved by the Commission in *Westar*, recognizing the different market structures in the Pacific Northwest and the Southwest Power Pool. As explained in the testimony of Mr. Reed, PSE collected generator output data during calendar year 2010 for the intermittent generation physically located in its BAA, and compared the actual generator output to the scheduled output to determine the stand-alone regulation burden imposed by intermittent generation to achieve a 95% confidence interval.<sup>41</sup> Consistent with *Westar*, Mr. Reed then performed a portfolio-wide analysis, which reduced the stand-alone regulation requirement of intermittent generation in recognition of the offsetting diversity benefits of other sources of variability on PSE's system, including load.<sup>42</sup> The resulting regulation purchase obligation is 16.77% of the transmission customer's reservation for intermittent generation.<sup>43</sup>

**1. Calculating the Stand-Alone Regulation Percentage for Intermittent Generation.**

To calculate the stand-alone regulation percentage of intermittent generation, Mr. Reed measured the deviation between the scheduled output of the Wild Horse and Vantage wind plants and the plants' actual output every ten minutes during 2010.<sup>44</sup> Mr. Reed calculated the standard deviation of the 10-minute deviations from the plants during 2010 and multiplied by two to arrive at the amount of regulation capacity PSE would need to have available 95% of the time, *i.e.* a 95% confidence interval. Mr. Reed then divided this amount of regulation capacity by the installed generation capacity of Wild Horse listed on PSE's 2010 FERC Form 1 plus a pro-rated amount of the installed generation capacity of Vantage as specified in Invenergy's Large Generator Interconnection Agreement ("LGIA") with PSE to determine the stand-alone wind generator regulation purchase obligation of 26.24%.

Mr. Reed calculated the 10-minute deviations by comparing the wind plants' hourly schedule to the actual output, while *Westar* compared the actual output every ten

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<sup>41</sup> See Exhibit PSE-100, Testimony of Lloyd C. Reed at pp. 15-16.

<sup>42</sup> *Id.*

<sup>43</sup> *Id.* at p. 5.

<sup>44</sup> As Mr. Reed testified, data for the Vantage Plant was only utilized for the period of time that the plant was in commercial operation (Oct. 4, 2010 – Dec. 31, 2010). However, the measured variability of the Vantage Plant during this time period was consistent with the variability of the Wild Horse plant during calendar year 2010 and during prior years. See Exh. PSE-100, Testimony of Lloyd C. Reed at p. 9.

minutes to the actual output ten minutes earlier. Unlike PSE, Westar operates in an organized market, Southwest Power Pool, Inc. (“SPP”), where generators are given a new dispatch signal every ten minutes. The forecasts for wind generators are thus developed by Westar and SPP every ten minutes based on the output of the generator ten minutes earlier, and the decision to reserve capacity for regulation or dispatch it for other purposes is made anew every ten minutes. Mr. Reed testified that it is therefore fair and accurate to measure deviations on Westar’s system based on ten minute persistence forecasts.

PSE operates in the Pacific Northwest where next-hour generation forecasts are calculated 45-60 minutes before each scheduling hour and generation resources are block scheduled based on those forecasts for the hour. Moreover, there is no within-hour market for capacity reserves in the Pacific Northwest. As a result, PSE as the BA makes a decision about the amount of generation capacity to reserve for regulation purposes only once before each scheduling hour and not every ten minutes like Westar. Therefore, it is fair and accurate to measure generator deviations on PSE’s system against the hourly schedule because any amount of capacity that is reserved by PSE for regulation service cannot be used for any other purpose until the next scheduling hour. For PSE, generator regulation is an hourly service rather than a 10-minute service until a market emerges for capacity reserves within the hour and intra-hour scheduling is implemented in the Pacific Northwest. Accordingly, Mr. Reed determined the stand-alone generator regulation purchase obligations using deviations between actual output and the hourly schedule.

## **2. Performing Westar’s Portfolio-Wide Analysis**

In *Westar*, the Commission found that “Westar’s portfolio-wide approach appropriately shares the diversity benefits among generators and load, and does not inappropriately allocate costs to any one customer.”<sup>45</sup> Following the approach approved by the Commission in *Westar*, Mr. Reed determined a portfolio-wide deviation for each 10-minute interval during 2010 by combining the positive and negative deviations from schedule of load, dispatchable generation, and intermittent generation in the PSE BAA. Mr. Reed then determined the correlation between each source of deviation based on the 10-minute interval observations for each source, and used standard statistical methods to determine what covariance adjustment should be made to each source’s regulation requirement. Mr. Reed then compared the system-wide regulation requirement under the portfolio-wide approach compared to each of the three sources of variation on a stand-alone basis, and determined that the portfolio-wide approach required 36% less regulation capacity because of the beneficial offsetting variability of the three sources. Mr. Reed calculated the portfolio regulation requirement of intermittent generation by taking 63.7% of the covariance-adjusted stand-alone regulation requirement to arrive at a purchase obligation of 16.77% for intermittent generation.

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<sup>45</sup> *Westar* at P 37.

**3. PSE's Proposed Tariff Revisions Are Consistent with the Cost Recovery Principles Outlined By the Commission in the VER NOPR.**

Mr. Reed determined the generator regulation purchase obligation for intermittent resources under PSE's proposed revisions to Schedule 13 using the methodology approved by the Commission in *Westar*. Mr. Reed's approach to cost allocation is also consistent with the approach outlined by the Commission in the VER NOPR, wherein the Commission noted that "regulation reserve costs should be allocated to transmission customers consistent with cost causation principles" and that "each public utility transmission provider should propose a method of apportioning such volumes of regulation reserves, based on the facts and circumstances of its individual system."<sup>46</sup> To that end, the Commission found that:

a public utility transmission provider may require a transmission customer delivering energy from VERs to purchase, or otherwise account for, a different volume of generator regulation reserve to the extent that the different regulation reserve volumes are supported by data showing that, on the public utility transmission provider's system, VERs impose a different per unit impact on overall system variability than conventional generating units.<sup>47</sup>

The VER NOPR expressly endorsed the recent *Westar* order, citing it as an example of "where a public utility transmission provider demonstrated the disproportionate impact of VERs on overall system variability, and the Commission found that it was consistent with cost causation principles for the public utility transmission provider to allocate a different regulation reserve capacity requirement to those resources."<sup>48</sup>

PSE's proposed allocation of the cost of regulation reserves to intermittent generation under Schedule 13 is similarly consistent with the VER NOPR because it is based on cost causation principles, and is fully supported by extensive data demonstrating that, on PSE's system, intermittent generation imposes a greater per unit impact on overall system variability than dispatchable generation. Mr. Reed's proposed allocation of the costs of regulation reserves to intermittent generation through the 16.77% purchase obligation is based on the measured variability of wind generation on PSE's system, recognizing the circumstances of PSE's regional market which, as described above, currently has no intra-hour market for energy or capacity and schedules are submitted on an hourly basis. PSE's proposal will allow it to recover the real and current costs of

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<sup>46</sup> VER NOPR at P 94.

<sup>47</sup> *Id.* at P 95.

<sup>48</sup> *Id.*

providing regulation reserves to intermittent generation exports from PSE's own portfolio of resources in a manner that is just, reasonable, not unduly discriminatory, and consistent with the cost recovery principles outlined by the Commission in *Westar* and the VER NOPR.

#### **IV. CONFIDENTIAL WORKPAPERS**

The workpapers of Mr. Reed and Mr. Story are being filed in this docket concurrently with this filing and are designated as confidential and privileged information and data. Mr. Reed's workpapers contain detailed 1 and 10-minute interval data regarding PSE BAA load and generation output, as well as the generation output of Invenenergy's Vantage plant. Mr. Story's workpapers contain excerpts from PSE's financial model that was used project Period II costs. PSE regards this material as confidential and commercially sensitive.

Accordingly, pursuant to 18 C.F.R. § 388.112 (2010), PSE requests confidential treatment of the workpapers of Mr. Reed and Mr. Story, and is filing the workpapers separately in this docket subject to confidential treatment. The workpapers shall only be made available to participants in this proceeding upon a showing of good cause and the execution of the Non-Disclosure Certificate, which is based on the Commission's Model Protective Order, a copy of which is included with this filing.

#### **V. COMPLIANCE WITH COMMISSION REQUIREMENTS**

##### **A. 18 C.F.R. § 35.13(b)(1)**

In this filing, PSE is submitting the following documents:

1. This Transmittal Letter
2. Service List
3. Schedule 3 of the PSE OATT in RTF format with metadata attached.
4. Schedule 13 of the PSE OATT in RTF format with metadata attached.
5. A redline of Schedules 3 and 13 of the PSE OATT showing the revisions in accordance with 18 C.F.R. § 35.10(b), in PDF format for publishing in eLibrary
6. Supporting Testimony and Exhibits of Mr. Lloyd Reed, designated as Exhibits PSE-100 through PSE-101.
7. Supporting Testimony of Mr. Mike Tongue, designated as Exhibit PSE-200.

8. Supporting Testimony and Exhibits of Mr. Charles Olson, designated as Exhibits PSE-300 through PSE-301.
9. Supporting Testimony and Exhibits of Mr. James Sant, designated as Exhibits PSE-400 through PSE-401.
10. Supporting Testimony and Exhibits of Mr. John Story, designated as Exhibits PSE-500 through PSE-501.
11. Attestation of PSE's Vice President, Finance, and Treasurer, Mr. Donald E. Gaines, pursuant to 18 C.F.R. § 35.13(d)(6).
12. Draft Protective Order.

As discussed previously, the confidential workpapers of PSE witnesses John Story and Lloyd Reed are being filed concurrently in this docket under separate cover.

**B. 18 C.F.R. § 35.13(b)(2)**

In the event the Commission determines that this filing requires further investigation and should be set for hearing, PSE respectfully requests that the proposed rates be accepted and made effective on August 5, 2011, and that any suspension of rates that the Commission may direct be for a nominal period. PSE submits that its proposed ancillary service rates are fully cost-justified, and are not substantially excessive under the standard set forth in *West Texas Utilities Company*, 18 FERC ¶ 61,189 (1982).

In *West Texas*, the Commission explained that when its preliminary examination indicates that proposed rates may be unjust and unreasonable, but may not be substantially excessive, the Commission would generally impose a nominal suspension.<sup>49</sup> The Commission has found that the application of *West Texas* warrants shorter suspension periods in circumstances where suspension for the maximum period would lead to harsh and inequitable results.<sup>50</sup> Here, good cause exists to grant the waiver and impose nominal suspension because PSE's prior attempt to recover the cost of capacity needed to integrate intermittent exports within the hour was rejected without hearing, and PSE has been incurring substantial costs in the interim. Any further delay in cost recovery would impose an undue hardship on PSE and its electricity customers who are required to subsidize the regulation costs of intermittent exports under existing rates.

PSE's proposed regulation rate increase will not lead to excessive revenues because it is based on the actual costs of regulation capacity and reflects a reasonable 11.6% ROE, which represents the median of the range of reasonable returns developed utilizing the Commission's approved DCF methodology, and PSE's actual capital

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<sup>49</sup> *W. Tex. Utils. Co.*, 18 FERC at p. 61,375.

<sup>50</sup> *Allegheny Power Sys. Operating Cos.*, 111 FERC ¶ 61,308 at P 51 (2005).

structure to establish the Rate of Return. Moreover, the revised tariff sheets solely impact the rates, and not the terms and conditions of regulation service provided under the PSE OATT and thus ratepayers will be fully protected through the Commission's refund authority in the event the proposed change in rates is later found to be unjust and unreasonable. For these reasons, an effective date of August 5, 2011 with no or nominal suspension is appropriate under *West Texas*.

**C. 18 C.F.R. § 35.13(b)(3)**

All customers required to purchase regulation service under Schedules 3 and 13 of PSE's OATT have been served with a paper copy of this Explanatory Statement and the entire filing on a CD.<sup>51</sup> The Washington Utilities and Transportation Commission has also been served a paper copy and CD of this filing. Upon request, any party will be provided with a copy of the filing either on paper or on a CD. Finally, this filing will also be posted on PSE's OASIS at <http://www.oatioasis.com/psei/>.

**D. 18 C.F.R. § 35.13(b)(4)**

A description of the filing is set forth above.

**E. 18 C.F.R. § 35.13(b)(5)**

The transmittal letter and the attached testimony explain why PSE is submitting the proposed revisions to Schedules 3 and 13 for Commission approval and reason for the proposed rates contained therein.

**F. 18 C.F.R. § 35.13(b)(6)**

No agreements from any other persons or under any contract are required in order to file or implement the proposed revisions to Schedules 3 and 13.

**G. 18 C.F.R. § 35.13(b)(7)**

No cost or expense included herein has been found in any administrative or judicial proceeding to be illegal, duplicative, or an unnecessary cost that is demonstrably the product of discriminatory employment practices.

**H. 18 C.F.R. § 35.13(c)**

Statements BG and BH<sup>52</sup> contain the requisite information relating to the effect of the rate change during Period I and Period II.

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<sup>51</sup> The parties served are identified in the service list attached to this Explanatory Statement.

<sup>52</sup> See Exh. PSE-501, Statement BG, BH for Period I and Period II.

## I. 18 C.F.R. § 35.13(d)

As discussed above, PSE is proposing to revise the regulation capacity charge under Schedules 3 and 13 of its OATT, and revise the purchase obligation of intermittent generators selling to load outside the PSE BAA. The cost of service and rate design information that support this filing are set forth in the Testimony and Exhibits of Lloyd Reed, Mike Tongue, Charles Olson, James Sant, and John Story. Relevant excerpts from PSE's regularly prepared corporate budget, used to project the Period II costs reflected in Exhibit PSE-501, are being filed concurrently in this docket under separate cover pursuant to 18 C.F.R. § 35.13(d)(5) as the protected and confidential workpapers of Mr. John Story. The Attestation of PSE's Vice President, Finance and Treasurer, Mr. Donald E. Gaines, as required by 18 C.F.R. § 35.13(d)(6) is included with this filing.

PSE believes that it has provided sufficient information for the Commission to determine the reasonableness of the proposed rate changes. To the extent that this filing fails to contain any information otherwise required for technical compliance with the Commission's Regulations, PSE respectfully requests that compliance with such regulation be waived. PSE further respectfully requests that the Commission grant any waivers that may be necessary for the tariff revisions to become effective as proposed.

## VI. COMMUNICATIONS AND SERVICE

The following persons are authorized to receive notices and communications with respect to the filing of this Tariff:

Tom DeBoer  
Christine Philipps  
Puget Sound Energy, Inc.  
PSE-08N  
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PSE respectfully requests that the individuals identified above with an asterisk be placed on the Commission's official service list in this proceeding and be designated for service pursuant to Rule 2010.<sup>53</sup>

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<sup>53</sup> 18 C.F.R. § 385.203 (b)(3).

## VII. CONCLUSION

PSE's proposed revision to the generator regulation purchase obligation of exporting generators under Schedule 13 of its OATT is consistent with the generator regulation charges recently approved by the Commission in *Westar*, recognizing the different regional market structures between SPP and the Pacific Northwest. In addition, PSE has fully supported the revised cost of regulation service provided under Schedules 3 and 13 in the accompanying testimony and exhibits. For the reasons discussed more fully above, PSE therefore respectfully requests that the Commission: (1) accept the revised tariff sheets for filing, without suspension or hearing; (2) allow the tariff sheets to become effective August 5, 2011; and (3) grant any other waivers or authorizations necessary to make the proposed revisions to Schedules 3 and 13 effective upon the date requested.

Respectfully submitted,

*Gary D. Bachman*

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Snohomish PUD Goldbar  
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Attn: Anna Miles

WPUD Enterprise Pump  
Public Utility District No. 1 of Whatcom County, WA  
1705 Trigg Road  
Ferndale, WA 98248  
Attn: Tom Anderson, P.E., General Manager

WPUD Ferndale Pump  
Public Utility District No. 1 of Whatcom County, WA  
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Attn: Tom Anderson, P.E., General Manager

Schedule 13 customers (effective May 2010):  
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Sierra Pacific Industries, Inc.  
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Anderson, CA 96007  
Attn: Bob Ellery, Director of Energy Resources & Environmental Affairs  
PH: 530-378-8179

Vantage Wind (resale to PWX)  
Vantage Wind Energy LLC

Attn: Kris Zadlo, VP, Regulatory Affairs and Transmission  
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